WoT Architecture

WoT Virtual F2F

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Michael.Lagally@oracle.com

Architecture TF agenda and goals

1. Sync architecture status across WoT

2. Consolidate use cases (new input?)
Find owners or unowned use cases

Select a short list that we will work on in the architecture spec going forward
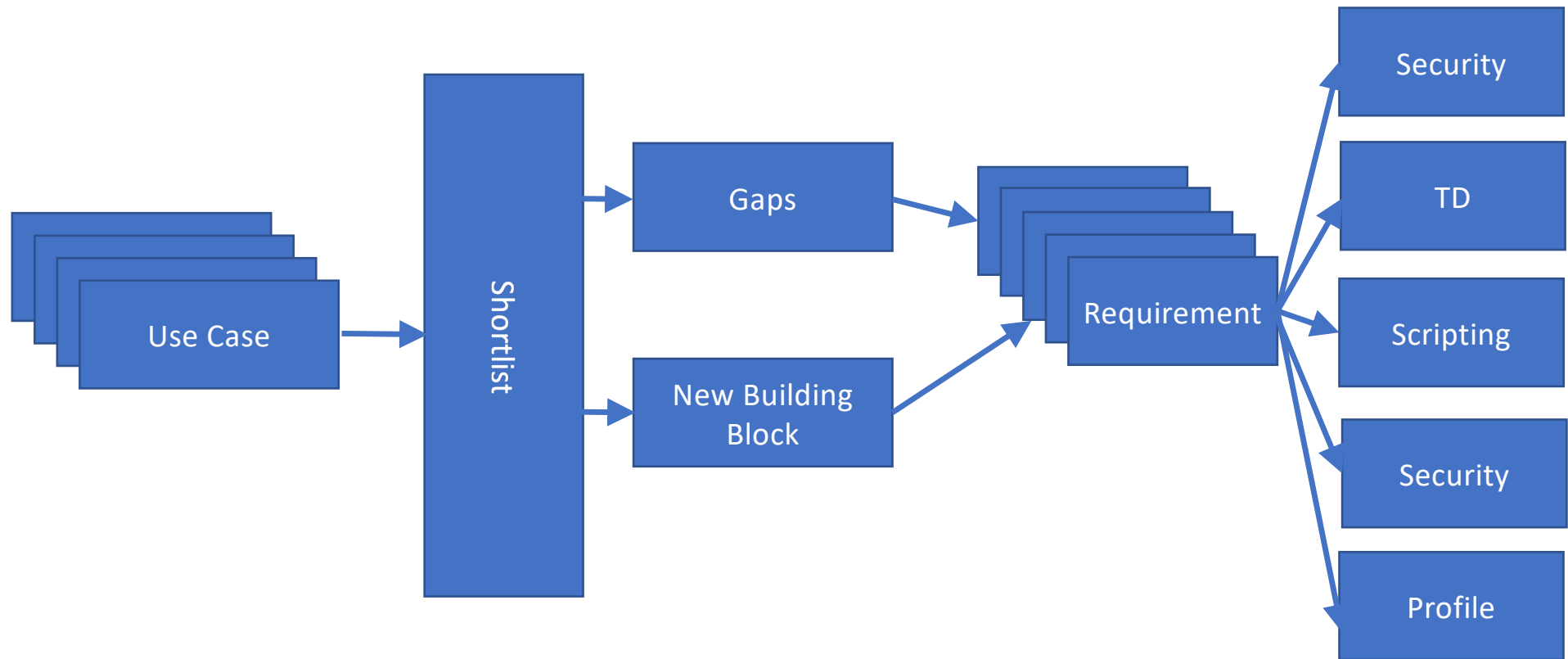
3. WoT profile

- Use cases and Requirements

- Strawman proposal: https://github.com/w3c/wot-profile

Why Use Cases?

- Determine target areas and application scenarios for WoT specifications
- Identify **business-relevant** work
- Identify gaps of existing specifications and new building blocks
- Define common terminology across different TFs
- Define the scope specification work by concrete requirements
- Collect requirements for:
  - TD extensions
  - Profile
  - Discovery
  - Scripting
  - Protocol Bindings

Architecture Process

Architecture Process

1. Collect all potential use cases

2. Define a short-list to focus next activities

3. For each use case on the short list:

      - Identify spec gaps

      - Identify new building blocks

      - Describe requirements

      - Create github issues for respective TF

4. Aggregate use cases and requirements in architecture spec chapter

Use Cases - Stakeholders

Stakeholders/actors/roles
- device owners
- device user
- cloud provider
- service provider (integrated service across devices and applications)
- device manufacturer
- gateway manufacturer
- network operator (potentially transparent for WoT use cases)
- identity provider
- discovery service provider

Use Cases - Domains

- Smart Cities
- Industrial
  - Manufacturing
  - Logistics
- Transportation
- Smart Grids
- Home Automation / Smart Home
- Healthcare and Medical
- Retail
- (Agriculture – consider input from Agriculture CG)
- Building Technology
- Building Management (public spaces, airports, stadiums, campuses, …)
- Outside space management (e.g. parks,)
- Emergency infrastructure

Reviewed use cases so far (1 of 3)

- Big Data
- Device Lifecycle
- Digital Twin
- GPS-module (Govtech - Geolocation)
- Retail
- X-Protocol Interworking

Reviewed use cases so far (2 of 3)
Multimodal interaction use cases

Multimodal interaction use cases (Source: Multimodal Interaction Working Group - https://www.w3.org/2002/mmi/)

- Audiovisual Devices Acting as Smartphone Extensions
- Unified Smart Home Control and Status Interface
- Smart Car Configuration Management
- Interactive Public Spaces
- Meeting Room Event Assistance
- Health Notifiers
- Multimodal Recognition Support
- Enhancement of Synergistic Interactions

Reviewed use cases so far (3 of 3)

Use Cases and Requirements for the Web of Things (V1.0):
https://cdn.statically.io/gh/w3c/wot/aa90b2b8/ucr-doc/index.html
We reviewed chapter 1 of the document on a section (Domain) basis:
- Domain: Other – Kunihiko Toumura
- Domain: Smart Cities: Michael McCool
- Domain: Transportation: Zoltan Kis
- Domain: Manufacturing: Michael Lagally
- Domain: Logistics: Michael Lagally
- Domain: Smart Grids: Christian Glomb
- Home Automation: Michael Koster
- Healthcare and Medical <unassigned>

Use cases in work

- Semantic Interoperability (Michael Koster)
- Smart Home Interworking (Michael Koster)
- Media Streaming (Kazuyuki Ashimura)
- Onboarding (Michael Lagally)
- Edge Device (Michael McCool)
- Discovery (Michael McCool, Michael Lagally)
- WoT in the Web browser (Michael Koster)

Use cases at risk (no owner yet)

- Fleet Management
- Data Streaming
- Video, Audio treatment
- Agriculture

(https://github.com/w3c/wot-architecture/issues?q=is%3Aissue+is%3Aopen+label%3A%22needs+owner%22)

Backlog (need to be reviewed)

Home Networking Scenarios (MEIG use cases) (https://www.w3.org/TR/hnreq)

Verifiable credentials use cases and data model

- https://www.w3.org/TR/2019/NOTE-vc-use-cases-20190924/
- https://www.w3.org/TR/2019/REC-vc-data-model-20191119/

Shortlist of Use Cases - Selection criteria

1. Business relevance:

 WoT specifications solve real world business problems that adds value for stakeholders by:

- enabling new business,
- simplifying existing business, e.g. reduce integration efforts, bridge between ecosystems
- grow existing markets

2. WoT Member relevance:

Use case is relevant for WG member companies

3. Active contributor:

WoT is driven by contributions – Active proponent and contributor is needed

References

The current use cases in scope are at:

- https://github.com/w3c/wot-architecture/tree/master/USE-CASES

There are additional use cases in work:

- https://github.com/w3c/wot-architecture/issues?q=is%3Aissue+is%3Aopen+label%3A%22use+case%22

Some of them don't have an owner yet, so they are potentially at risk:

- https://github.com/w3c/wot-architecture/issues?q=is%3Aissue+is%3Aopen+label%3A%22needs+owner%22